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L2 AND (dead ADJ code ADJ elimination)	21

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L5	L2 AND (dead ADJ code ADJ elimination)	21	L5
L4	L2 AND elimination	162	L4
L3	L2 AND methods ADJ removal	0	L3
L2	L1 AND (optimization OR (method ADJ removal) OR dead ADJ code ADJ elimiation)	1146	L2
L1	(object-oriented) OR (object ADJ oriented)	7405	L1

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(object oriented)and (optimization)

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L6: Entry 2 of 11   File: USPT   Dec 4, 2001

US-PAT-NO: 6327699
DOCUMENT-IDENTIFIER: US 6327699 B1

TITLE: Whole program path profiling

DATE-ISSUED: December 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Larus; James R.	Mercer Island	WA		
Fraser; Christopher W.	Seattle	WA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA			02

APPL-NO: 9/ 302854   [PALM]
DATE FILED: April 30, 1999

INT-CL: [7] G06 F 9/45

US-CL-ISSUED: 717/4; 717/7, 717/8
US-CL-CURRENT: 717/128; 717/158

FIELD-OF-SEARCH: 717/4, 717/7, 717/8, 717/9, 702/119, 703/23, 714/15

PRIOR-ART-DISCLOSED:

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
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ABSTRACT:

A program is instrumented to record acyclic paths during execution of the program. A whole program path is produced from the record and provides a complete compact record of a program's entire control flow. It includes a record of crossing loop boundaries and procedure boundaries to provide a complete picture of the program's

dynamic behavior. A string compression algorithm that constructs a context-free grammar is used to compress the path trace and uncover its regular structure. Heavily executed subpaths are easily identified from the representation by traversing the whole program path to find hot subpaths according to input parameters of minimum and maximum path lengths and a minimum cost.

40 Claims, 10 Drawing figures